

**City of Winnipeg**  
**Disraeli Bridge (Red River) B-111**

Inspected on 28/02/2011 by 17(2)(e)

**Site ID: B-111**

**Service On: Road**

**Co-responsibility : none**

**Service Under: Large River**

**Number of Superstructure Types : 2**

**Classified as: Major street**

**Superstructure Type & Sub-Type:** Steel Girder / Rolled Beam Girder  
 Steel Girder / Rolled Beam Girder

**Number of Spans : 10**

**Total Length (m) : 314.891 m**

**Area (m2) : 5951 m2**

**Out to Out Deck Width (m) : 18.898 m**

**END 1 is: South Abutment**

**ADT 45107 (1999)**

**END 2 is: North Abutment**

**BUILT IN : 1959**

**Date of last rehab: 01/05/1984**

**Date of previous inspection: 02/03/2010**

**Lead Inspector : 17(2)(e)**

**Consultant: City of Winnipeg**

**Weather at Inspection : Overcast**

**Air Temperature: -7 °C**

**Inspection Duration : 7 hours**

**Number of Inspectors: 1**

**Inspection Date(s) : 28/02/2011**

**WORK DESCRIPTION**


**Legend**

9 - Excellent  
 8 - Very Good  
 7 - Good

6 - Satisfactory  
 5 - Adequate  
 4 - Deteriorating

3 - Poor  
 2 - Critical  
 1 - Immediate Action Required

N - Not Accessible  
 X - Not Applicable

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**UTILITIES/SIGNAGE**

Item	Current Rating	Previous Rating	Comment
	Avg Min	Avg Min	
ID Plaque in Place?	No		
Electricity Utility Problem?	No		
Telephone Utility Problem?	No		
signals Utility Problem?	No		
South Abutment Hazard signage in	No		
North Abutment Hazard signage in	No		

**APPROACHES : ORV = 5.0**

**Approach at South Abutment (floating) / Asphalt / Aluminum barrier**

Item	Current Rating	Previous Rating	Comment
	Avg Min	Avg Min	
Horizontal Alignment	5 5	5 5	
Vertical Alignment	5 5	5 5	
Approach Slab Wear Surface	5 5	5 5	
Approach Slab Settlement	5 5	5 5	
Approach Road Settlement	5 5	5 5	
Embankment Slopes	5 5	5 5	
Median Guardrail/Barrier	4 4	4 4	
Outer Guardrail/Barrier	4 4	4 4	
Drainage	5 5	5 5	

**Approach at North Abutment (floating) / Asphalt / flex beam**

Item	Current Rating	Previous Rating	Comment
	Avg Min	Avg Min	
Horizontal Alignment	5 5	5 5	
Vertical Alignment	5 5	5 5	
Approach Slab Wear Surface	4 4	4 4	
Approach Slab Settlement	5 5	5 5	
Approach Road Settlement	5 5	5 5	
Embankment Slopes	5 5	5 5	
Median Guardrail/Barrier	4 4	4 4	
Outer Guardrail/Barrier	4 4	4 4	
Drainage	5 5	5 5	

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**DECK : ORV = 3.36**

**Single Deck / Asphalt**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Wearing Surface Condition	3.9	3	3.9	3	Critical asphalt repairs completed by Centralized Services in 2005. At present similiar repairs not required.
Wearing Surface Rideability	5	5	5	5	
Deck Drainage	3	3	3	3	Majority of drain pipes are plugged solid. Alot of drainage happens at open joints.
Deck Underside	3	3	3	3	
Median Condition	4	4	4	4	
Sidewalk Condition	3	3	3	3	11 sqm. of shallow depth concrete repairs completed in 2005, 4.5 sqm completed in 2006. All critical shoring completed to date. BK 2010 Additional sidewalk shoring and repairs completed. BK 2011
Curb Condition	3	3	3	3	7m of curb repairs completed in 2005, 1.7 m completed in 2006. Additional curb repairs completed in 2011. BK 2011
Traffic Barrier Condition	3	3	3	3	
Pedestrian Rail Condition	3	3	3	3	Extensive corrosion in lower portion of barrier posts.

**JOINTS : ORV = 3.3**

**Deck Joint at Abutment, End 1 / Sliding Plate without Drain trough / (not specified)**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Nosing Condition and Levelness	4	4	4	4	Bridge Crew repaired in October 2004
Drain	3	3	3	3	
Gap Left Gutter (enter mm)					
Gap Right Gutter (enter mm)					
Gap at Centre (enter mm)					

**Deck Joint at Pier 4 / Sliding Plate without Drain trough**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Nosing Condition and Levelness	4	4	4	4	
Drain	3	3	3	3	
Gap Left Gutter (enter mm)					
Gap Right Gutter (enter mm)					
Gap at Centre (enter mm)					

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**Deck Joint at Pier 5 / Sliding Plate without Drain trough**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Nosing Condition and Levelness	4	4	4	4	
Drain	3	3	3	3	
Gap Left Gutter (enter mm)					
Gap Right Gutter (enter mm)					
Gap at Centre (enter mm)					

**Deck Joint at Pier 8 / Sliding Plate without Drain trough**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Nosing Condition and Levelness	4	4	4	4	
Drain	3	3	3	3	
Gap Left Gutter (enter mm)					
Gap Right Gutter (enter mm)					
Gap at Centre (enter mm)					

**Deck Joint at Pier 9 / Sliding Plate without Drain trough**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Nosing Condition and Levelness	4	4	4	4	
Drain	3	3	3	3	
Gap Left Gutter (enter mm)					
Gap Right Gutter (enter mm)					
Gap at Centre (enter mm)					

**Deck Joint at Abutment, End 2 / Sliding Plate without Drain trough / (not specified)**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Nosing Condition and Levelness	4	4	4	4	
Drain	3	3	3	3	
Gap Left Gutter (enter mm)					
Gap Right Gutter (enter mm)					
Gap at Centre (enter mm)					

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**GIRDERS : ORV = 4.96**

**Interior Girder Lines - Structure A (4 interior girder lines)**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating Condition	4	4	4	4	Annual high pressure washing of substructure began in 2004. Last washing completed in 2006.
Flange	6	6	6	6	
Web	6	6	6	6	
Stiffeners	6	6	6	6	
Splice	6	6	6	6	
Weld	6	6	6	6	
Girders General	6	6	6	6	Locations where floor beam/girder connections have been welded Oct. 2004. Span 2, 7 locations; Span 3, 5 locations.
Any Cracks?	No				

**Exterior Girder Lines - Structure A (Two exterior girder lines)**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating Condition	4	4	4	4	
Flange	5	5	5	5	
Web	5	5	5	5	
Stiffeners	5	5	5	5	
Splice	5	5	5	5	
Weld	5	5	5	5	
Girders General	5	5	5	5	
Any Cracks?	No				
End Diaphragms					
Interior Diaphragms/Cross Frames	4	4	4	4	7 floor channels repaired in 2004. 6 floor channels repaired in 2007.
Stringers	4	4	4.5	4	
Any Cracks?	No				

**Interior Girder Lines - Structure B (2 interior girder lines)**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating Condition	3	3	3	3	Annual high pressure washing of substructure began in 2004. Last washing completed in 2006.
Flange	6	6	6	6	
Web	6	6	6	6	

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Stiffeners	6	6	6	6	
Splice	6	6	6	6	
Weld			6	6	
Girders General	6	6	6	6	
Any Cracks?	No				

**Exterior Girder Lines - Structure B (Two exterior girder lines)**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating Condition	3	3	3	3	
Flange	5	5	5	5	
Web	6	6	6	6	
Stiffeners	5	5	5	5	
Splice	6	6	6	6	
Weld	6	6	6	6	
Girders General	5	5	5	5	
Any Cracks?	No				
End Diaphragms					
Interior Diaphragms/Cross Frames	5	5	5	5	
Stringers	4.5	4	4.5	4	
Any Cracks?	No				

**BEARINGS : ORV = 5.33**

**Bearing Line 1 at Abutment/End 1 / Steel**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating (if steel)			3	3	
general performance	4	4	4	4	
Anchor Bolts	5	5	5	5	
Bearings seized ?	No				

**Bearing Line 1 at Pier 1 / Steel**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating (if steel)	3.5	3	3.5	3	
general performance	6	6	6	6	
Anchor Bolts	5	5	5	5	
Bearings seized ?	No				

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**Bearing Line 1 at Pier 2 / Steel**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating (if steel)	3.5	3	3.5	3	
general performance	6	6	6	6	
Anchor Bolts	5	5	5	5	
Bearings seized ?	Yes				Bearing has no movement.

**Bearing Line 1 at Pier 3 / Steel**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating (if steel)	3.5	3	3.5	3	
general performance	6	6	6	6	
Anchor Bolts	5	5	5	5	
Bearings seized ?	No				

**Bearing Line 1 at Pier 4 / Steel**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating (if steel)	3.5	3	3.5	3	
general performance	5	5	5	5	
Anchor Bolts	5	5	5	5	
Bearings seized ?	No				

**Bearing Line 2 at Pier 4 / Steel**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating (if steel)	3.5	3	3.5	3	
general performance	6	6	6	6	
Anchor Bolts	4	4	4	4	
Bearings seized ?	No				

**Bearing Line 1 at Pier 5 / Steel**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating (if steel)	3.5	3	3.5	3	
general performance	5	5	5	5	
Anchor Bolts	5	5	5	5	

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Bearings seized ?	No		
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**Bearing Line 2 at Pier 5 / Steel**

Item	Current Rating	Previous Rating	Comment
	Avg Min	Avg Min	
Coating (if steel)	5 5	5 5	
general performance	5 5	5 5	
Anchor Bolts	5 5	5 5	
Bearings seized ?	No		

**Bearing Line 1 at Pier 6 / Steel**

Item	Current Rating	Previous Rating	Comment
	Avg Min	Avg Min	
Coating (if steel)	4 4	4 4	
general performance	5 5	5 5	
Anchor Bolts	5 5	5 5	
Bearings seized ?	No		

**Bearing Line 1 at Pier 7 / Steel**

Item	Current Rating	Previous Rating	Comment
	Avg Min	Avg Min	
Coating (if steel)	4 4	4 4	
general performance	5 5	5 5	
Anchor Bolts	5 5	5 5	
Bearings seized ?	No		

**Bearing Line 1 at Pier 8 / Steel**

Item	Current Rating	Previous Rating	Comment
	Avg Min	Avg Min	
Coating (if steel)	4 4	4 4	
general performance	5 5	5 5	
Anchor Bolts	5 5	5 5	
Bearings seized ?	No		

**Bearing Line 2 at Pier 8 / Steel**

Item	Current Rating	Previous Rating	Comment
	Avg Min	Avg Min	
Coating (if steel)	3 3	3 3	
general performance	5 5	5 5	



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Anchor Bolts	5	5	5	5	
Bearings seized ?	No				

**Bearing Line 1 at Pier 9 / Steel**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating (if steel)	4	4	4	4	
general performance	6	6	6	6	
Anchor Bolts	5	5	5	5	
Bearings seized ?	No				

**Bearing Line 2 at Pier 9 / Steel**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating (if steel)	4	4	4	4	
general performance	6	6	6	6	
Anchor Bolts	5	5	5	5	
Bearings seized ?	No				

**Bearing Line 1 at Abutment/End 2 / Steel**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Coating (if steel)	3	3	3	3	
general performance	5	5	5	5	
Anchor Bolts	5	5	5	5	
Bearings seized ?	No				

**ABUTMENTS : ORV = 4.2**

**Abutment at South Abutment**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Bearing Seat Structure	4	4	5	5	
Backwall Upper Structure	4	4	5	5	
Backwall Lower Structure	4	4	5	5	
Wingwalls Structure	4	4	5	5	
Overall Stability	5	5	5	5	

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**Abutment at North Abutment**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Bearing Seat Structure	4	4	4	4	See photos for spalling at abutments.
Backwall Upper Structure	4	4	4	4	
Backwall Lower Structure	3	3	3	3	
Wingwalls Structure	5	5	5	5	
Overall Stability	5	5	5	5	

**PIERS : ORV = 6.07**

**Pier 1 / Massive Concrete**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Pier Cap Structure	5.9	3	5.9	3	See photos showing spalling areas 2004. Delamination survey, chlorides, and half cell corrosion potential completed on all piers by 1712(e) 2008
Pier Shaft Structure	5.9	3	5.9	3	
Overall Stability	6	6	6	6	
Debris Accumulation?	No				

**Pier 2 / Massive Concrete**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Pier Cap Structure	5.9	3	5.9	3	See photos 2004.
Pier Shaft Structure	5.9	3	5.9	3	
Overall Stability	6	6	6	6	
Debris Accumulation?	No				

**Pier 3 / Massive Concrete**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Pier Cap Structure	6.9	4	6.9	4	
Pier Shaft Structure	6.9	4	6.9	4	
Overall Stability	7	7	7	7	
Debris Accumulation?	No				

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**Pier 4 / Massive Concrete**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Pier Cap Structure	5.9	4	5.9	4	Repair to cap near west exterior bearing 2004.
Pier Shaft Structure	5.9	4	5.9	4	
Overall Stability	6	6	6	6	
Scour/Erosion					
Debris Accumulation?	No				

**Pier 5 / Massive Concrete**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Pier Cap Structure	5.9	4	5.9	4	See photos showing spalling areas 2004.
Pier Shaft Structure	5.9	4	5.9	4	
Overall Stability	6	6	6	6	
Scour/Erosion					
Debris Accumulation?	No				

**Pier 6 / Massive Concrete**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Pier Cap Structure	7	7	7	7	
Pier Shaft Structure	7	7	7	7	
Overall Stability	7	7	7	7	
Scour/Erosion					
Debris Accumulation?	No				

**Pier 7 / Massive Concrete**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Pier Cap Structure	6	6	6	6	
Pier Shaft Structure	6	6	6	6	
Overall Stability	6	6	6	6	
Scour/Erosion					
Debris Accumulation?	No				

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**Pier 8 / Massive Concrete**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Pier Cap Structure	5	5	5	5	See photos showing spalling areas 2004.
Pier Shaft Structure	5	5	5	5	
Overall Stability	5	5	5	5	
Scour/Erosion					
Debris Accumulation?	No				

**Pier 9 / Massive Concrete**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Pier Cap Structure	5.9	3	5.9	3	Repaired spalling in 2004.
Pier Shaft Structure	5.9	3	5.9	3	
Overall Stability	6	6	6	6	
Debris Accumulation?	No				

**SLOPES : ORV = 5.0**

**Slope at South Abutment**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Slope Protection	5	5	5	5	
Vegetation Removal required?	No				
Slope Stability/Erosion at site	5	5	5	5	

**Slope at North Abutment**

Item	Current Rating		Previous Rating		Comment
	Avg	Min	Avg	Min	
Slope Protection	5	5	5	5	
Vegetation Removal required?	No				
Slope Stability/Erosion at site	5	5	5	5	